

SEQUENCE LISTING

<110> Seeley, Todd W.

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<130> PP-01406.004/200130.438D1

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<141> 2002-02-27

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<213> Homo sapien

<400> 27
Met Thr Gly Ser Asn Glu Phe Lys Leu Asn Gln Pro Pro Glu Asp Gly
1 5 10 15
Ile Ser Ser Val Lys Phe Ser Pro Asn Thr Ser Gln Phe Leu Leu Val
20 25 30
Ser Ser Trp Asp Thr Ser Val Arg Leu Tyr Asp Val Pro Ala Asn Ser
35 40 45
Met Arg Leu Lys Tyr Gln His Thr Gly Ala Val Leu Asp Cys Ala Phe
50 55 60
Tyr Asp Pro Thr His Ala Trp Ser Gly Gly Leu Asp His Gln Leu Lys
65 70 75 80
Met His Asp Leu Asn Thr Asp Gln Glu Asn Leu Val Gly Thr His Asp
85 90 95
Ala Pro Ile Arg Cys Val Glu Tyr Cys Pro Glu Val Asn Val Met Val
100 105 110
Thr Gly Ser Trp Asp Gln Thr Val Lys Leu Trp Asp Pro Arg Thr Pro
115 120 125
Cys Asn Ala Gly Thr Phe Ser Gln Pro Glu Lys Val Tyr Thr Leu Ser
130 135 140
Val Ser Gly Asp Arg Leu Ile Val Gly Thr Ala Gly Arg Arg Val Leu
145 150 155 160
Val Trp Asp Leu Arg Asn Met Gly Tyr Val Gln Gln Arg Arg Glu Ser
165 170 175
Ser Leu Lys Tyr Gln Thr Arg Cys Ile Arg Ala Phe Pro Asn Lys Gln
180 185 190
Gly Tyr Val Leu Ser Ser Ile Glu Gly Arg Val Ala Val Glu Tyr Leu
195 200 205
Asp Pro Ser Pro Glu Val Gln Lys Lys Lys Tyr Ala Phe Lys Cys His
210 215 220
Arg Leu Lys Glu Asn Asn Ile Glu Gln Ile Tyr Pro Val Asn Ala Ile
225 230 235 240
Ser Phe His Asn Ile His Asn Thr Phe Ala Thr Gly Gly Ser Asp Gly

245 250 255
 Phe Val Asn Ile Trp Asp Pro Phe Asn Lys Lys Arg Leu Cys Gln Phe
 260 265 270
 His Arg Tyr Pro Thr Ser Ile Ala Ser Leu Ala Phe Ser Asn Asp Gly
 275 280 285
 Thr Thr Leu Ala Ile Ala Ser Ser Tyr Met Tyr Glu Met Asp Asp Thr
 290 295 300
 Glu His Pro Glu Asp Gly Ile Phe Ile Arg Gln Val Thr Asp Ala Glu
 305 310 315 320
 Thr Lys Pro Lys Val His Leu Ile Ile Leu
 325 330

<210> 28

<211> 341

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 28

Met Gln Ile Val Gln Ile Glu Gln Ala Pro Lys Asp Tyr Ile Ser Asp
 1 5 10 15
 Ile Lys Ile Ile Pro Ser Lys Ser Leu Leu Ile Thr Ser Trp Asp
 20 25 30
 Gly Ser Leu Thr Val Tyr Lys Phe Asp Ile Gln Ala Lys Asn Val Asp
 35 40 45
 Leu Leu Gln Ser Leu Arg Tyr Lys His Pro Leu Leu Cys Cys Asn Phe
 50 55 60
 Ile Asp Asn Thr Asp Leu Gln Ile Tyr Val Gly Thr Val Gln Gly Glu
 65 70 75 80
 Ile Leu Lys Val Asp Leu Ile Gly Ser Pro Ser Phe Gln Ala Leu Thr
 85 90 95
 Asn Asn Glu Ala Asn Leu Gly Ile Cys Arg Ile Cys Lys Tyr Gly Asp
 100 105 110
 Asp Lys Leu Ile Ala Ala Ser Trp Asp Gly Leu Ile Glu Val Ile Asp
 115 120 125
 Pro Arg Asn Tyr Gly Asp Gly Val Ile Ala Val Lys Asn Leu Asn Ser
 130 135 140
 Asn Asn Thr Lys Val Lys Asn Lys Ile Phe Thr Met Asp Thr Asn Ser
 145 150 155 160
 Ser Arg Leu Ile Val Gly Met Asn Asn Ser Gln Val Gln Trp Phe Arg
 165 170 175
 Leu Pro Leu Cys Glu Asp Asp Asn Gly Thr Ile Glu Glu Ser Gly Leu
 180 185 190
 Lys Tyr Gln Ile Arg Asp Val Ala Leu Leu Pro Lys Glu Gln Glu Gly
 195 200 205
 Tyr Ala Cys Ser Ser Ile Asp Gly Arg Val Ala Val Glu Phe Phe Asp
 210 215 220
 Asp Gln Gly Asp Asp Tyr Asn Ser Ser Lys Arg Phe Ala Phe Arg Cys
 225 230 235 240
 His Arg Leu Asn Leu Lys Asp Thr Asn Leu Ala Tyr Pro Val Asn Ser
 245 250 255
 Ile Glu Phe Ser Pro Arg His Lys Phe Leu Tyr Thr Ala Gly Ser Asp
 260 265 270
 Gly Ile Ile Ser Cys Trp Asn Leu Gln Thr Arg Lys Lys Ile Lys Asn
 275 280 285

Phe Ala Lys Phe Asn Glu Asp Ser Val Val Lys Ile Ala Cys Ser Asp
 290 295 300
 Asn Ile Leu Cys Leu Ala Thr Ser Asp Asp Thr Phe Lys Thr Asn Ala
 305 310 315 320
 Ala Ile Asp Gln Thr Ile Glu Leu Asn Ala Ser Ser Ile Tyr Ile Ile
 325 330 335
 Phe Asp Tyr Glu Asn
 340

<210> 29
 <211> 326
 <212> PRT
 <213> Mus musculus

<400> 29
 Met Thr Gly Ser Asn Glu Phe Lys Leu Asn Gln Pro Pro Glu Asp Gly
 1 5 10 15
 Ile Ser Ser Val Lys Phe Ser Pro Asn Thr Ser Gln Phe Leu Leu Val
 20 25 30
 Ser Ser Trp Asp Thr Ser Val Arg Leu Tyr Asp Val Pro Ala Asn Ser
 35 40 45
 Met Arg Leu Lys Tyr Gln His Thr Gly Ala Val Leu Asp Cys Ala Phe
 50 55 60
 Tyr Asp Pro Thr His Ala Trp Ser Gly Gly Leu Asp His Gln Leu Lys
 65 70 75 80
 Met His Asp Leu Asn Thr Asp Gln Glu Asn Leu Val Gly Thr His Asp
 85 90 95
 Ala Pro Ile Arg Cys Val Glu Tyr Cys Pro Glu Val Asn Val Met Val
 100 105 110
 Thr Gly Ser Trp Asp Gln Thr Val Lys Leu Trp Asp Pro Arg Thr Pro
 115 120 125
 Cys Asn Ala Gly Thr Phe Ser Gln Pro Glu Lys Val Tyr Thr Leu Ser
 130 135 140
 Val Ser Gly Asp Arg Leu Ile Val Gly Thr Ala Gly Arg Arg Val Leu
 145 150 155 160
 Val Trp Asp Leu Trp Asn Met Gly Tyr Val Gln Gln Arg Arg Glu Ser
 165 170 175
 Ser Leu Lys Tyr Gln Thr Arg Cys Ile Arg Ala Phe Pro Asn Lys Gln
 180 185 190
 Gly Tyr Val Leu Ser Ser Ile Glu Gly Arg Val Ala Val Glu Tyr Leu
 195 200 205
 Asp Pro Ser Pro Glu Val Gln Lys Lys Lys Tyr Ala Phe Lys Cys His
 210 215 220
 Arg Leu Lys Glu Asn Asn Ile Glu Gln Ile Tyr Pro Val Asn Ala Ile
 225 230 235 240
 Ser Phe His Asn Ile His Asn Thr Phe Ala Thr Gly Gly Ser Asp Gly
 245 250 255
 Phe Val Asn Ile Trp Asp Pro Phe Asn Lys Lys Arg Leu Cys Gln Phe
 260 265 270
 His Arg Tyr Pro Thr Ser Ile Ala Ser Leu Ala Phe Ser Asn Asp Gly
 275 280 285
 Thr Thr Leu Ala Ile Ala Ser Ser Tyr Met Tyr Glu Met Asp Asp Thr
 290 295 300
 Glu His Pro Glu Asp Gly Ile Phe Ile Arg Gln Val Thr Asp Ala Glu

320

<400>	30															
Met	Ser	Leu	Phe	Gly	Thr	Thr	Ser	Gly	Phe	Gly	Thr	Ser	Gly	Thr	Ser	
1				5					10					15		
Met	Phe	Gly	Ser	Ala	Thr	Thr	Asp	Asn	His	Asn	Pro	Met	Lys	Asp	Ile	
			20					25					30			
Glu	Val	Thr	Ser	Ser	Pro	Asp	Asp	Ser	Ile	Gly	Cys	Leu	Ser	Phe	Ser	
		35					40					45				
Pro	Pro	Thr	Leu	Pro	Gly	Asn	Phe	Leu	Ile	Ala	Gly	Ser	Trp	Ala	Asn	
	50					55					60					
Asp	Val	Arg	Cys	Trp	Glu	Val	Gln	Asp	Ser	Gly	Gln	Thr	Ile	Pro	Lys	
65					70					75					80	
Ala	Gln	Gln	Met	His	Thr	Gly	Pro	Val	Leu	Asp	Val	Cys	Trp	Ser	Asp	
				85					90					95		
Asp	Gly	Ser	Lys	Val	Phe	Thr	Ala	Ser	Cys	Asp	Lys	Thr	Ala	Lys	Met	
			100					105					110			
Trp	Asp	Leu	Ser	Ser	Asn	Gln	Ala	Ile	Gln	Ile	Ala	Gln	His	Asp	Ala	
		115					120					125				
Pro	Val	Lys	Thr	Ile	His	Trp	Ile	Lys	Ala	Pro	Asn	Tyr	Ser	Cys	Val	
	130					135					140					
Met	Thr	Gly	Ser	Trp	Asp	Lys	Thr	Leu	Lys	Phe	Trp	Asp	Thr	Arg	Ser	
145					150					155					160	
Ser	Asn	Pro	Met	Met	Val	Leu	Gln	Leu	Pro	Glu	Arg	Cys	Tyr	Cys	Ala	
				165					170					175		
Asp	Val	Ile	Tyr	Pro	Met	Ala	Val	Val	Ala	Thr	Ala	Glu	Arg	Gly	Leu	
			180					185					190			
Ile	Val	Tyr	Gln	Leu	Glu	Asn	Gln	Pro	Ser	Glu	Phe	Arg	Arg	Ile	Glu	
		195					200					205				
Ser	Pro	Leu	Lys	His	Gln	His	Arg	Cys	Val	Ala	Ile	Phe	Lys	Asp	Lys	
	210					215					220					
Gln	Asn	Lys	Pro	Thr	Gly	Phe	Ala	Leu	Gly	Ser	Ile	Glu	Gly	Arg	Val	
225					230					235					240	
Ala	Ile	His	Tyr	Ile	Asn	Pro	Pro	Asn	Pro	Ala	Lys	Asp	Asn	Phe	Thr	
				245					250					255		
Phe	Lys	Cys	His	Arg	Ser	Asn	Gly	Thr	Asn	Thr	Ser	Ala	Pro	Gln	Asp	
			260					265					270			
Ile	Tyr	Ala	Val	Asn	Gly	Ile	Ala	Phe	His	Pro	Val	His	Gly	Thr	Leu	
		275					280					285				
Ala	Thr	Val	Gly	Ser	Asp	Gly	Arg	Phe	Ser	Phe	Trp	Asp	Lys	Asp	Ala	
	290					295					300					
Arg	Thr	Lys	Leu	Lys	Thr	Ser	Glu	Gln	Leu	Asp	Gln	Pro	Ile	Ser	Ala	
305					310					315					320	
Cys	Cys	Phe	Asn	His	Asn	Gly	Asn	Ile	Phe	Ala	Tyr	Ala	Ser	Ser	Tyr	
				325					330			</				

Ile Phe Leu Arg Asn Ala Ala Glu Glu Leu Lys Pro Arg Asn Lys Lys
 355 360 365

<210> 31

<211> 352

<212> PRT

<213> Schizosaccharomyces pombe

<400> 31

Met Ser Leu Phe Gly Gln Ala Thr Thr Ser Thr Val Ser Asn Ala Thr
 1 5 10 15
 Gly Asp Leu Lys Lys Asp Val Glu Val Ala Gln Pro Pro Glu Asp Ser
 20 25 30
 Ile Ser Asp Leu Ala Phe Ser Pro Gln Ala Glu Tyr Leu Ala Ala Ser
 35 40 45
 Ser Trp Asp Ser Lys Val Arg Ile Tyr Glu Val Gln Ala Thr Gly Gln
 50 55 60
 Ser Ile Gly Lys Ala Leu Tyr Glu His Gln Gly Pro Val Leu Ser Val
 65 70 75 80
 Asn Trp Ser Arg Asp Gly Thr Lys Val Ala Ser Gly Ser Val Asp Lys
 85 90 95
 Ser Ala Lys Val Phe Asp Ile Gln Thr Gly Gln Asn Gln Gln Val Ala
 100 105 110
 Ala His Asp Asp Ala Val Arg Cys Val Arg Phe Val Glu Ala Met Gly
 115 120 125
 Thr Ser Pro Ile Leu Ala Thr Gly Ser Trp Asp Lys Thr Leu Lys Tyr
 130 135 140
 Trp Asp Leu Arg Gln Ser Thr Pro Ile Ala Thr Val Ser Leu Pro Glu
 145 150 155 160
 Arg Val Tyr Ala Met Asp Cys Val His Pro Leu Leu Thr Val Ala Thr
 165 170 175
 Ala Glu Arg Asn Ile Cys Val Ile Asn Leu Ser Glu Pro Thr Lys Ile
 180 185 190
 Phe Lys Leu Ala Met Ser Pro Leu Lys Phe Gln Thr Arg Ser Leu Ala
 195 200 205
 Cys Phe Ile Lys Gly Asp Gly Tyr Ala Ile Gly Ser Val Glu Gly Arg
 210 215 220
 Cys Ala Ile Gln Asn Ile Asp Glu Lys Asn Ala Ser Gln Asn Phe Ser
 225 230 235 240
 Phe Arg Cys His Arg Asn Gln Ala Gly Asn Ser Ala Asp Val Tyr Ser
 245 250 255
 Val Asn Ser Ile Ala Phe His Pro Gln Tyr Gly Thr Phe Ser Thr Ala
 260 265 270
 Gly Ser Asp Gly Thr Phe Ser Phe Trp Asp Lys Asp Ser His Gln Arg
 275 280 285
 Leu Lys Ser Tyr Pro Asn Val Gly Gly Thr Ile Ser Cys Ser Thr Phe
 290 295 300
 Asn Arg Thr Gly Asp Ile Phe Ala Tyr Ala Ile Ser Tyr Asp Trp Ser
 305 310 315 320
 Lys Gly Tyr Thr Phe Asn Asn Ala Gln Leu Pro Asn Lys Ile Met Leu
 325 330 335
 His Pro Val Pro Gln Asp Glu Ile Lys Pro Arg Pro Lys Lys Gly Arg
 340 345 350

<210> 32
 <211> 365
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 32
 Met Ser Phe Phe Asn Arg Ser Asn Thr Thr Ser Ala Leu Gly Thr Ser
 1 5 10 15
 Thr Ala Met Ala Asn Glu Lys Asp Leu Ala Asn Asp Ile Val Ile Asn
 20 25 30
 Ser Pro Ala Glu Asp Ser Ile Ser Asp Ile Ala Phe Ser Pro Gln Gln
 35 40 45
 Asp Phe Met Phe Ser Ala Ser Ser Trp Asp Gly Lys Val Arg Ile Trp
 50 55 60
 Asp Val Gln Asn Gly Val Pro Gln Gly Arg Ala Gln His Glu Ser Ser
 65 70 75 80
 Ser Pro Val Leu Cys Thr Arg Trp Ser Asn Asp Gly Thr Lys Val Ala
 85 90 95
 Ser Gly Gly Cys Asp Asn Ala Leu Lys Leu Tyr Asp Ile Ala Ser Gly
 100 105 110
 Gln Thr Gln Gln Ile Gly Met His Ser Ala Pro Ile Lys Val Leu Arg
 115 120 125
 Phe Val Gln Cys Gly Pro Ser Asn Thr Glu Cys Ile Val Thr Gly Ser
 130 135 140
 Trp Asp Lys Thr Ile Lys Tyr Trp Asp Met Arg Gln Pro Gln Pro Val
 145 150 155 160
 Ser Thr Val Met Met Pro Glu Arg Val Tyr Ser Met Asp Asn Lys Gln
 165 170 175
 Ser Leu Leu Val Val Ala Thr Ala Glu Arg His Ile Ala Ile Ile Asn
 180 185 190
 Leu Ala Asn Pro Thr Thr Ile Phe Lys Ala Thr Thr Ser Pro Leu Lys
 195 200 205
 Trp Gln Thr Arg Cys Val Ala Cys Tyr Asn Glu Ala Asp Gly Tyr Ala
 210 215 220
 Ile Gly Ser Val Glu Gly Arg Cys Ser Ile Arg Tyr Ile Asp Asp Gly
 225 230 235 240
 Met Gln Lys Lys Ser Gly Phe Ser Phe Lys Cys His Arg Gln Thr Asn
 245 250 255
 Pro Asn Arg Ala Pro Gly Ser Asn Gly Gln Ser Leu Val Tyr Pro Val
 260 265 270
 Asn Ser Ile Ala Phe His Pro Leu Tyr Gly Thr Phe Val Thr Ala Gly
 275 280 285
 Gly Asp Gly Thr Phe Asn Phe Trp Asp Lys Asn Gln Arg His Arg Leu
 290 295 300
 Lys Gly Tyr Pro Thr Leu Gln Ala Ser Ile Pro Val Cys Ser Phe Asn
 305 310 315 320
 Arg Asn Gly Ser Val Phe Ala Tyr Ala Leu Ser Tyr Asp Trp His Gln
 325 330 335
 Gly His Met Gly Asn Arg Pro Asp Tyr Pro Asn Val Ile Arg Leu His
 340 345 350
 Ala Thr Thr Asp Glu Glu Val Lys Glu Lys Lys Lys Arg
 355 360 365